

**BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA**

DOCKET NO. 2011-271-E

In the Matter of:

Application of Duke Energy Carolinas,
LLC for Authority to Adjust and Increase
Its Electric Rates and Charges

)
)
)
)
)
)

**CORRECTED
REBUTTAL TESTIMONY OF
ROBERT B. HEVERT FOR
DUKE ENERGY CAROLINAS, LLC**

TABLE OF CONTENTS

I.	INTRODUCTION.....	3
II.	RESPONSE TO THE DIRECT TESTIMONY OF MR. O'DONNELL.....	7
III.	RESPONSE TO MR. CHRISS	40
IV.	CONCLUSIONS	42

I. INTRODUCTION

1 **Q. ARE YOU THE SAME ROBERT B. HEVERT WHO PREVIOUSLY FILED**
2 **DIRECT TESTIMONY IN THIS PROCEEDING?**

3 A. Yes. I provided Direct Testimony on behalf of Duke Energy Carolinas, LLC (“Duke
4 Energy Carolinas”, or the “Company”) a subsidiary of Duke Energy Corporation (“Duke
5 Energy”).

6 **Q. PLEASE STATE THE PURPOSE OF YOUR REBUTTAL TESTIMONY.**

7 A. The purpose of my Rebuttal Testimony is to respond to the Direct Testimonies Mr. Kevin
8 W. O’Donnell on behalf of the South Carolina Energy Users Committee and Mr. Steve
9 W. Chriss on behalf of Wal-Mart Stores East, LP and Sam’s East, Inc. (collectively, the
10 “Opposing ROE Witnesses”).

11 **Q. HAVE YOU PREPARED ANY REBUTTAL EXHIBITS?**

12 A. Yes. Rebuttal Exhibit No. RBH-1 through Rebuttal Exhibit No. RBH-14 have been
13 prepared by me or under my direct supervision.

14 **Q. PLEASE BRIEFLY SUMMARIZE THE ANALYSES CONTAINED IN YOUR**
15 **REBUTTAL TESTIMONY.**

16 A. As a preliminary matter, I recognize that proxy group composition is an area of
17 disagreement between Mr. O’Donnell and me in this proceeding.¹ While I continue to
18 believe that the approach used in my Direct Testimony is reasonable, I also recognize that
19 the definition and application of the criteria used to develop comparison groups may be
20 subject to reasonable differences in judgment among analysts. Consequently, in order to

¹ Mr. Chriss did not prepare any proxy group-related analyses.

1 narrow the range of disputed issues I have produced analytical results for three proxy
2 groups: (1) the proxy group contained in my Direct Testimony, revised to now include
3 three companies that I had excluded based on recently reported operating and financial
4 results and to exclude one company that has suspended dividend payments;² (2) Mr.
5 O'Donnell's comparison group including companies with merger activity; and (3) Mr.
6 O'Donnell's comparison group of companies excluding those with merger activity.
7 For each of those groups, I applied the Constant Growth DCF and CAPM approaches (as
8 discussed in my Direct Testimony) based on data through September 30, 2011. As
9 demonstrated in Tables 1 through 3 (below), proxy group composition does not have a
10 material effect on the analytical results in this case.

² See Direct Testimony of Robert B. Hevert at 27-30.

Table 1: Summary of Results – Hevert Revised Proxy Group

	Low	Mean	High
Constant Growth DCF			
30-Day Average	9.14%	10.48%	12.04%
90-Day Average	9.08%	10.42%	11.97%
180-Day Average	9.08%	10.42%	11.98%
CAPM Results	Sharpe Ratio Derived Market Risk Premium		Market DCF Derived Market Risk Premium
Eighteen-Month Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.65%	11.26%	
Near Term Projected 30-Year Treasury (3.97%)	12.33%	11.94%	
Average Bloomberg and Value Line Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.55%	11.16%	
Near Term Projected 30-Year Treasury (3.97%)	12.23%	11.84%	

Table 2: Summary of Results – O'Donnell Proxy Group (Includes Merger Companies)

	Low	Mean	High
Constant Growth DCF			
30-Day Average	9.10%	10.32%	11.79%
90-Day Average	9.09%	10.31%	11.78%
180-Day Average	9.12%	10.34%	11.81%
CAPM Results	Sharpe Ratio Derived Market Risk Premium		Market DCF Derived Market Risk Premium
Eighteen-Month Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.53%		11.15%
Near Term Projected 30-Year Treasury (3.97%)	12.21%		11.83%
Average Bloomberg and Value Line Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.46%		11.08%
Near Term Projected 30-Year Treasury (3.97%)	12.14%		11.75%

Table 3: Summary of Results – O’Donnell Proxy Group (No Merger Companies)

	Low	Mean	High
Constant Growth DCF			
30-Day Average	9.11%	10.29%	11.63%
90-Day Average	9.10%	10.27%	11.62%
180-Day Average	9.13%	10.30%	11.65%
Supporting Methodologies			
CAPM Results	Sharpe Ratio Derived Market Risk Premium		Market DCF Derived Market Risk Premium
Eighteen-Month Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.59%		11.20%
Near Term Projected 30-Year Treasury (3.97%)	12.27%		11.88%
Average Bloomberg and Value Line Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.49%		11.11%
Near Term Projected 30-Year Treasury (3.97%)	12.17%		11.79%

Q. HOW IS THE BALANCE OF YOUR REBUTTAL TESTIMONY ORGANIZED?

A. The balance of my testimony is organized as follows:

- Section II contains my response to Mr. O’Donnell.
- Section III contains my response to Mr. Chriss.
- Section IV summarizes my conclusions.

II. RESPONSE TO THE DIRECT TESTIMONY OF MR. O’DONNELL

Q. PLEASE PROVIDE A BRIEF SUMMARY OF MR. O’DONNELL’S DIRECT TESTIMONY AND RECOMMENDATION.

A. Mr. O’Donnell recommends an ROE of 9.50 percent, which is based on his application of the Constant Growth DCF, and Comparable Earnings approaches. Mr. O’Donnell

1 presents data for a proxy group of 35 companies including companies with merger
2 activity, a proxy group of 31 companies without merger activity, and also for Duke
3 Energy, the parent company of Duke Energy Carolinas. In applying his DCF analysis,
4 Mr. O'Donnell considers a variety of historical and projected growth rates, which
5 produce a range for his mean DCF results of 8.75 percent to 9.75 percent.³

6 **Q. AS A GENERAL MATTER, DO YOU BELIEVE MR. O'DONNELL'S**
7 **RECOMMENDATION OF A 9.50 PERCENT ROE IS FAIR AND REASONABLE**
8 **FOR THE COMPANY, AND IS ADEQUATE TO SUPPORT CREDIT QUALITY**
9 **AND ACCESS TO CAPITAL?**

10 A. No, I do not. An important consequence of the authorized return is the ability to generate
11 the cash flow (sometimes referred to as "Cash Flow from Operations", or "CFO") needed
12 to fund required debt service and capital investments, as well as dividends. While Mr.
13 O'Donnell is correct in pointing out that there generally are three forms of external
14 capital (*i.e.*, common equity, preferred stock, and long-term debt),⁴ he fails to consider
15 the importance of internally generated funds as a source of financing capital
16 expenditures, as the primary financial measure of credit quality and as the source of
17 dividend payments. From the perspective of fixed income investors, CFO is one of the
18 most important metrics used to assess credit quality; companies with higher levels of
19 funds flow as a ratio of interest or debt tend to have higher credit ratings.⁵ Similarly,

³ See Direct Testimony of Kevin W. O'Donnell, CFA, at 17.

⁴ *Ibid.* at 23.

⁵ See, for example, Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities*, and August 2009.

1 equity investors are keenly focused on a company's ability to fund capital investments
2 and dividends through cash from operations.

3 In fact, in its January 2011 "Credit Opinion" regarding Duke Energy Carolinas,
4 Moody's Investors Service ("Moody's") noted that the Company's "strong historical
5 financial credit metrics are expected to decline modestly over the next few years
6 associated with the largely debt-financed nature of its capital investment plans."⁶
7 Speaking to factors that could result in negative ratings actions, Moody's noted that
8 "[r]atings downgrades could occur if Duke Carolinas' financial profile were to decline
9 more severely, for example to where its ratio of CFO pre w/c [working capital] to debt
10 fall to the high teen's range for a sustained period of time."⁷ In a later report focused on
11 cash flow ratios for the utility industry in general, Moody's observed that the extent to
12 which cash flow-based ratios exceed target thresholds for given ratings categories (*i.e.*,
13 the "cushion") "is not nearly as robust as it might first appear."⁸ Moody's went on to
14 note that if the utility industry were to "exhibit sustained erosion to its cushion, the
15 likelihood for negative ratings action will increase."⁹

16 Finally, I note that a material decrease in the Company's authorized ROE likely would
17 diminish the financial community's view of the credit-supportive nature of South
18 Carolina's regulatory environment. Since the regulatory framework and cash-flow based
19 metrics account for nearly 50.00 percent of the weighted factors that Moody's considers

⁶ Moody's Investors Service, *Credit Opinion: Duke Energy Carolinas, LLC*, January 13, 2011.

⁷ *Ibid* (clarification added).

⁸ Moody's Investors Service, *U.S. Utility Cash Flow Ratios Are Less Robust Than They First Appear*, November 2, 2011, at 1

⁹ *Ibid.*, At page 6 of its report, Moody's identified Duke Energy Corporation as one of the seven companies with "possible cross-over rating risk" from Baa2 to Baa3.

1 in arriving at ratings determinations,¹⁰ Mr. O'Donnell's recommended ROE of 9.50
2 percent, would put substantial pressure on the Company's credit profile.

3 **Q. WHAT ARE THE KEY AREAS OF DISAGREEMENT BETWEEN YOU AND**
4 **MR. O'DONNELL?**

5 A. There are several areas in which I disagree with Mr. O'Donnell's approach. In general,
6 those areas include: (1) proxy group selection criteria and comparison companies; (2)
7 growth rate estimates used in our DCF models; (3) Mr. O'Donnell's application of the
8 comparable earnings analysis; (4) Mr. O'Donnell's use of pension funding assumptions
9 in supporting his ROE recommendation; and (5) the use of the CAPM model to estimate
10 the Cost of Equity. In addition, while Mr. O'Donnell did not comment on my calculation
11 of flotation cost *per se*, he did not consider those costs in his ROE recommendation.

12 ***1. Proxy Group Selection Criteria and Comparison Companies***

13 **Q. PLEASE SUMMARIZE THE SCREENING CRITERIA BY WHICH MR.**
14 **O'DONNELL DEVELOPED HIS PROXY GROUP.**

15 A. Mr. O'Donnell developed two comparable groups: one that includes companies involved
16 in merger activity and another that excludes companies involved in merger activity. Mr.
17 O'Donnell began with the companies listed in Value Line's Electric Utility Industry
18 group. He then arrived at his two proxy groups by including only companies that met the
19 following two screening criteria:

- 20 1. S&P Quality Ranking of B or B+; and

¹⁰ See, Moody's Investor Service, *Credit Opinion: Duke Energy Carolinas*, January 13, 2011.

1 2. Pays dividends, or has not recently reinstated or reduced dividends.¹¹

2 Based on those criteria, Mr. O'Donnell arrived at the group of 35 companies (including
3 companies involved in mergers) and a group of 31 companies (excluding companies
4 involved in mergers).

5 **Q. ARE THE SCOPE AND DEFINITION OF THE SCREENS APPLIED BY MR.**
6 **O'DONNELL GENERALLY CONSISTENT WITH THOSE APPLIED IN YOUR**
7 **DIRECT TESTIMONY?**

8 A. While certain of the screening criteria are common to our analyses, there are significant
9 differences between our approaches. In my view, Mr. O'Donnell's screening criteria are
10 far too general and result in a proxy group that, taken as a whole, is not sufficiently
11 comparable to Duke to arrive at a reasoned ROE recommendation. Finally, I disagree
12 with Mr. O'Donnell's development of a proxy group including companies involved in
13 merger activity.

14 **Q. IS THERE EVIDENCE THAT THE INVESTMENT COMMUNITY VIEWS**
15 **UTILITIES AS A GROUP OF COMPANIES WITH VARIED OPERATING**
16 **CHARACTERISTICS, AND THAT SUCH PERCEIVED DIFFERENCES**
17 **AFFECT INVESTORS' ASSESSMENTS OF RELATIVE RISKS?**

18 A. Yes, there is. Moody's, for example, noted that "[r]egulated electric and gas companies
19 are a diverse universe in terms of business model (ranging from vertically integrated to

¹¹ See Direct Testimony of Kevin W. O'Donnell, CFA, at 11.

1 unbundled generation, transmission and/or distribution entities).”¹² I do not believe that
2 Mr. O’Donnell has properly accounted for such diversity in his screening process.
3 Nonetheless, I have presented a set of updated analytical results for Mr. O’Donnell’s
4 proxy groups.

5 **Q. DO YOU HAVE ANY COMMENTS REGARDING MR. O’DONNELL’S USE OF**
6 **THE S&P QUALITY RANKINGS AS A SCREENING CRITERION?**

7 A. While I do not disagree with the use of independent credit agency ratings as a screening
8 criterion *per se*, I disagree with Mr. O’Donnell’s use of S&P’s quality ratings in lieu of
9 credit ratings. As a practical matter, changes in credit ratings are newsworthy events, and
10 can, at a minimum, increase a company’s borrowing costs and access to capital, and in
11 some cases have more far-reaching effects such as triggering redemptions, collateral
12 requirements, and other contractual clauses. For instance, Duke Energy, when disclosing
13 risk factors in its 2010 SEC Form 10-K, stated:

14 Duke Energy may be required to repay certain debt should the
15 credit ratings at Duke Energy Carolinas fall to a certain level at
16 S&P or Moody’s. As of December 31, 2010, Duke Energy had \$4
17 million of senior unsecured notes which mature serially through
18 2012 that may be required to be repaid if Duke Energy Carolinas’
19 senior unsecured debt ratings fall below BBB- at S&P or Baa3 at
20 Moody’s, and \$14 million of senior unsecured notes which mature
21 serially through 2016 that may be required to be repaid if Duke
22 Energy Carolinas’ senior unsecured debt ratings fall below BBB at
23 S&P or Baa2 at Moody’s.¹³

¹² Moody’s Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities*, August 2009.

¹³ Duke Energy Corporation, SEC Form 10-K, December 31, 2010, at 57, 58.

1 Quality rankings, which attempt to distill historical data regarding earnings and dividends
2 to a single measure (*i.e.*, B-, B, B+, *etc.*),¹⁴ are far less relevant to the process of
3 establishing a group of comparable companies than are credit ratings, which consider a
4 broad array of current and potential regulatory, business, and financial risks.

5 **Q. DO YOU AGREE WITH MR. O'DONNELL'S CONSIDERATION OF DUKE**
6 **ENERGY, THE PARENT COMPANY OF DUKE ENERGY CAROLINAS, IN HIS**
7 **ANALYSES?**

8 A. No, I do not. As noted in my Direct Testimony, Duke Energy is engaged in a merger
9 with Progress Energy and therefore is not eligible for inclusion in my proxy group.¹⁵ In
10 addition, it is my practice to exclude parent companies from the proxy groups of
11 subsidiary utilities, as the inclusion of a parent involves circular logic. Consequently, I
12 continue to not consider Duke Energy in my analyses.

13 **Q. WHAT WOULD BE THE EFFECT OF ADOPTING MR. O'DONNELL'S**
14 **COMPARABLES GROUP FOR YOUR DCF ANALYSIS?**

15 A. While I disagree with the majority of companies in Mr. O'Donnell's proxy groups,
16 applying my Constant Growth DCF methodology to his proxy group produces a range of
17 mean to mean high results of 10.27 percent to 11.65 percent for his proxy group (with no
18 merger activity; *see*, Rebuttal Exhibit No. RBH-3).¹⁶ As noted earlier, that range is

¹⁴ See *Standard & Poor's Quality Rankings Portfolio Performance, Risk, and Fundamental Analysis*, October 2005, at 5-7.

¹⁵ See Direct Testimony of Robert B. Hevert, at 26.

¹⁶ Note: In performing this set of DCF calculations using Mr. O'Donnell's proxy group, I excluded the negative earnings growth rates for Ameren and Edison International. The inclusion of negative growth rates

1 highly consistent with the Constant Growth DCF results derived from my Revised Proxy
2 Group.

3 **2. DCF Model Growth Rate Estimates**

4 **Q. WHAT GROWTH RATES DID MR. O'DONNELL CONSIDER IN HIS DCF**
5 **ANALYSIS?**

6 A. As noted in Exhibits KWO-1 and KWO-2, Mr. O'Donnell presents the following growth
7 rates in his testimony: (1) the historical and projected "Plowback Ratio" (also referred to
8 herein as "Sustainable Growth" rates or "Retention Growth" rates) as reported by Value
9 Line; (2) the historical ten-year and five-year compound annual growth rates in Earnings
10 Per Share ("EPS"), Book Value Per Share ("BVPS"), and Dividends Per Share ("DPS")
11 growth rates as reported by Value Line; (3) the Value Line projected EPS, BVPS, and
12 DPS growth rates; and (4) consensus projected EPS growth rates, as reported by Charles
13 Schwab & Co. Of the growth rates presented in Exhibits KWO-1 and KWO-2, however,
14 Mr. O'Donnell's DCF results "place more weight on forecasted figures than historical
15 figures in estimating the cost of equity for the comparable group."¹⁷ Despite the range in
16 growth rates presented in Exhibits KWO-1 and KWO-2, Mr. O'Donnell suggests that the
17 "proper growth rate range for the two comparable groups of companies to use in the DCF
18 analysis is 4.5% to 5.0%."¹⁸

violates the underlying assumption of the Constant Growth DCF of constant average growth rates in
perpetuity.

¹⁷ Direct Testimony of Kevin W. O'Donnell, CFA, at 16.

¹⁸ *Ibid.*

1 **Q. DO YOU AGREE WITH THE GROWTH RATE ASSUMPTIONS INCLUDED IN**
2 **MR. O'DONNELL'S ANALYSIS?**

3 A. No, I do not. In particular, I disagree with Mr. O'Donnell's use of historical and
4 projected dividend and book value growth rates, and his application of the "Plowback
5 Ratio."

6 **Q. PLEASE EXPLAIN YOUR CONCERN WITH USING HISTORICAL AND**
7 **PROJECTED DIVIDEND AND BOOK VALUE GROWTH RATES IN THE DCF**
8 **MODEL.**

9 A. First, as noted in my Direct Testimony, earnings are the fundamental driver of a
10 company's ability to pay dividends. Management decisions to conserve cash for capital
11 investments, to manage the dividend payout for the purpose of minimizing future
12 dividend reductions, or to signal future earnings prospects, can influence dividend growth
13 rates in near-term periods. As Mr. O'Donnell acknowledges, however, over the long run
14 dividends are dependent on and will increase as a function of earnings.¹⁹ Similarly, book
15 value can increase over time only through the addition of retained earnings, or with the
16 issuance of new equity. Both of those factors are derivative of earnings; retained
17 earnings increase with the amount of earnings not distributed as dividends, and the price
18 at which new equity is issued is a function of the earnings per share and the then-current
19 Price/Earnings ratio.

¹⁹ *Ibid.*, at 14.

1 In addition, I disagree with Mr. O'Donnell's notion that in practice, utility investors value
2 equity securities solely on the basis of growth in dividends.²⁰ As noted in my Direct
3 Testimony, the Constant Growth DCF model assumes that earnings, dividends and book
4 value all grow at the same, constant rate in perpetuity, and that the payout and P/E ratios
5 stay constant over time. Such assumptions rarely (if ever) hold in practice. As a result,
6 investors consider both dividends and the "terminal value" or the price at which they
7 likely will be able to sell the stock, as the relevant sources of cash flow. As a practical
8 matter, the terminal price often is calculated as the product of the expected earnings per
9 share, and the expected P/E ratio at the end of the investment period. That is why the
10 growth rate in the DCF model is considered a "capital appreciation" growth rate; the
11 value of the stock increases at the projected earnings growth rate.²¹

12 Finally, I note that Value Line is the only service that provides dividend and book
13 value growth projections. To the extent that the earnings projections services used by
14 both Mr. O'Donnell and me represent survey data, the results are less likely to be biased
15 in one direction or another. In addition, academic research has clearly indicated that
16 measures of earnings and cash flow are strongly related to returns.²² Consequently,
17 neither dividend nor book value growth should be used in the application of the Constant
18 Growth DCF model.

²⁰ *Ibid.*, at 7.

²¹ Assumes a constant P/E ratio.

²² See, for example, Christofi, Christofi, Lori and Moliver, *Evaluating Common Stocks Using Value Line's Projected Cash Flows and Implied Growth Rate*, Journal of Investing (Spring 1999); and Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts Growth Forecasts*, Financial Management, 21 (Summer 1992).

1 **Q. ARE THERE SPECIFIC REASONS TO USE ONLY EARNINGS GROWTH**
2 **FORECASTS IN THE CONSTANT GROWTH DCF MODEL AND NOT**
3 **ALTERNATIVE GROWTH ESTIMATES AS MR. O'DONNELL HAS DONE?**

4 A. Yes, there are. Earnings are the fundamental driver of a company's ability to pay
5 dividends and the basis on which book value grows.²³ That is, both dividends and book
6 value growth are derivative of earnings growth. In that regard, according to the strict
7 assumptions of the Constant Growth DCF model, earnings, dividends and stock prices all
8 grow at the same constant rate in perpetuity. Under the fundamental assumption of
9 constant earnings growth, payout ratio, and P/E ratio, the Constant Growth DCF model
10 produces the same result whether the stock is held in perpetuity or sold after an assumed
11 holding period (*see* Rebuttal Exhibit No. RBH-7).

12 As Rebuttal Exhibit No. RBH-7 demonstrates, under the Constant Growth DCF
13 model assumptions, the assumed growth rate equals the rate of capital appreciation (*i.e.*,
14 the stock price growth rate). Given that investors tend to value common equity on the
15 basis of P/E ratios, the Cost of Equity is a function of the long-term growth in earnings,
16 not dividends or book value. In any event, analysts are aware that utility revenues are set
17 based on the subject company's rate base or book value. Therefore, any relationship
18 between book value and projected growth already is reflected in analysts' EPS growth
19 projections.

²³ *See*, Direct Testimony of Robert B. Hevert, at 36, 37.

1 **Q. PLEASE DESCRIBE THE ANALYSES YOU PERFORMED TO ASSESS THE**
2 **RELATIONSHIP BETWEEN PROXY COMPANY VALUATIONS AND**
3 **HISTORICAL AND PROJECTED EARNINGS, DIVIDEND AND BOOK VALUE**
4 **GROWTH RATES.**

5 A. I conducted an analysis of the predictive capability of historical and projected earnings,
6 book value and dividend growth estimates on proxy company valuation levels. As
7 discussed below, my analysis was structured to assess the ability of historical and
8 projected earnings, book value and/or dividend growth estimates to explain proxy group
9 valuation levels. Essentially, the analysis was designed to determine whether investors
10 use historical Earnings per Share, Dividends per Share, or Book Value per Share growth
11 rates when valuing electric utilities.

12 As shown in Rebuttal Exhibit No. RBH-8, my analyses examine the relationship
13 between the Enterprise Value to EBITDA (“EV/EBITDA”) ratios of the Value Line
14 universe of companies, and the historical and projected EPS, BVPS growth rates and
15 DPS growth rates provided by Value Line. In order to establish a sample of sufficient
16 size to be statistically significant, I examined the relationship between the EV/EBITDA
17 ratio of the universe of Value Line electric utilities and the various growth rates reported
18 by Value Line as of September 30, 2011.

19 I then performed a series of regression analyses in which the historical and
20 projected growth rates were included as explanatory variables, with the EV/EBITDA
21 ratio as the dependent variable. The intent of those analyses was to determine if

1 historical and projected earnings, book value and dividend growth rates are statistically
2 related to the companies' valuation levels.

3 **Q. WHAT DID THOSE ANALYSES REVEAL?**

4 A. As shown in Rebuttal Exhibit No. RBH-8, the results of that analysis indicate that
5 historical and projected book value and dividend growth are not statistically significant
6 explanatory variables for EV/EBITDA ratios; nor are historical earnings growth rates.
7 The results of those analyses demonstrate that the only statistically significant variable
8 was the projected EPS growth rate.

9 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE USE OF NON-**
10 **EARNINGS GROWTH RATES IN THE FORMULATION OF THE DCF MODEL**
11 **FOR DUKE ENERGY CAROLINAS?**

12 A. Based on the results of my regression analyses, my conclusion is that it is not appropriate
13 to rely on historical or projected growth rates of book value or dividend growth or
14 historical measures of earnings growth in the Constant Growth DCF model. I therefore
15 have continued to rely on projected EPS growth rates from Value Line, Zacks, and First
16 Call in developing my Constant Growth DCF results.

17 **Q. HOW DOES MR. O'DONNELL CALCULATE THE SUSTAINABLE GROWTH**
18 **RATES FOR HIS PROXY GROUP?**

19 A. Mr. O'Donnell calculates the Sustainable Growth rates by obtaining the "percent retained
20 to common equity" from Value Line.²⁴ As Mr. O'Donnell explains, the estimate is

²⁴ Direct Testimony of Kevin W. O'Donnell, CFA, at 13.

1 calculated as the product of the expected earned return on common equity (“R”), and the
2 retention ratio (*i.e.*, the portion of earnings not paid out in dividends, or “B”).²⁵

3 **Q. DO YOU AGREE WITH MR. O’DONNELL’S CALCULATION OF THE**
4 **SUSTAINABLE GROWTH RATE?**

5 A. No, I do not. The “Plowback” method is premised on the theory that a firm’s growth is a
6 function of its expected earnings, and the extent to which it retains earnings to invest in
7 the enterprise. The form of the model that Mr. O’Donnell has relied on is its simplest
8 form, projecting growth as a function of retained earnings. However, by calculating the
9 expected growth rate as the product of B and R (which reflects growth from internally
10 generated funds), Mr. O’Donnell ignores the fact that companies can and do experience
11 growth through externally generated funds (*i.e.*, issuances of equity). As noted earlier,
12 Mr. O’Donnell recognizes that utility’s fund investments by issuing common stock.²⁶

13 To incorporate externally generated growth, the Sustainable Growth rate is
14 presented by the equation “BR + SV”, which reflects growth from both internally
15 generated funds (*i.e.*, the “BR” term) and from issuances of equity (*i.e.*, the “SV” term).
16 As noted above, the first term is the product of the retention ratio (*i.e.*, “B”, or the portion
17 of net income not paid in dividends) and the expected return on equity (*i.e.*, “R”, or the
18 portion of net income that is “plowed back” into the company as a means of funding
19 growth). The “SV” term can be represented as:

20
$$\left(\frac{m}{b} - 1\right) \times \text{Common Shares growth rate}$$

²⁵ *Ibid.*, at 12, 13.

²⁶ *Ibid.*, at 6.

1 where:

2
$$\frac{m}{b} = \text{the market to book ratio.}$$

3 In this form, the “SV” term reflects an element of growth as the product of (1) the growth
4 in shares outstanding and (2) that portion of the market-to-book ratio that exceeds unity.

5 **Q. PUTTING ASIDE THE ISSUE OF EXTERNAL FINANCING, DO YOU HAVE**
6 **ANY OTHER CONCERNS WITH MR. O’DONNELL’S USE OF THE**
7 **“PLOWBACK RATIO”?**

8 A. Yes, I do. The underlying premise of Mr. O’Donnell’s calculation is that future earnings
9 will increase as the retention ratio (*i.e.*, the portion of earnings not paid out in dividends)
10 increases. That is, if future growth is modeled as “B x R”, growth will increase as the
11 retention ratio increases. There are, however, several reasons why that may not be the
12 case. Management decisions to conserve cash for capital investments, manage the
13 dividend payout for the purpose of minimizing future dividend reductions, or to signal
14 future earnings prospects can and do influence the dividend payout (and therefore
15 earnings retention) in the near-term. Consequently, it is appropriate to determine whether
16 the data used to calculate the Sustainable Growth rate support the assumption that higher
17 earnings retention ratios necessarily are associated with higher future earnings growth
18 rates.

19 **Q. DID YOU PERFORM ANY ANALYSIS TO TEST THAT ASSUMPTION?**

20 A. Yes, I did. Based on Value Line data as of September 30, 2011, I calculated (in each year
21 of the historical periods) the dividend payout ratio, the retention ratio, and the subsequent

1 five-year earnings growth rate for each of the companies in Mr. O'Donnell's proxy
2 group. I then performed a regression analysis in which the dependent variable was the
3 five-year earnings growth rate, and the explanatory variable was the earnings retention
4 ratio. The purpose of that analysis was to determine whether the Value Line historical
5 data empirically support the assumption that higher retention ratios necessarily produce
6 higher earnings growth rates.²⁷

7 **Q. WHAT DID THAT ANALYSIS REVEAL?**

8 A. As shown in Table 4 (below, *see* also Rebuttal Exhibit No. RBH-9), there was a
9 statistically significant *negative* relationship between the earnings retention ratio and the
10 subsequent five-year earnings growth rate. That is, based on Value Line historical data,
11 earnings growth actually decreased as the retention ratio increased.

Table 4: Regression Results

	Coefficient	Standard Error	t-Statistic
Intercept	0.222	0.032	6.843
Retention Ratio	-0.307	0.042	-7.383

12 **Q. IS THERE ACADEMIC RESEARCH THAT SUPPORTS YOUR FINDINGS?**

13 A. Yes, there is. In 2006, two articles appeared in Financial Analysts Journal, which
14 addressed the theory that high dividend payouts (*i.e.*, low retention ratios) are associated
15 with low future earnings growth.²⁸ Both of those articles cite a 2003 study by Arnott and

²⁷ Value Line also is the data source for Mr. O'Donnell's sustainable growth estimate.

²⁸ Ping Zhou, William Ruland, *Dividend Payout and Future Earnings Growth*, Financial Analysts Journal, Vol. 62, No. 3, 2006. *See* also Owain ap Gwilym, James Seaton, Karina Suddason, Stephen Thomas,

1 Asness²⁹ who found that, over the course of 130 years of data, future earnings growth is
2 associated with high, rather than low payout ratios.³⁰ In essence, the findings of all three
3 studies are consistent with my findings regarding the relationship between retention ratios
4 and future earnings growth for the electric utilities in Mr. O'Donnell's proxy group; there
5 is a negative, not a positive relationship between the two. Considering those articles, it
6 appears that my findings are not anomalous. Given the strong statistical results of my
7 analyses, and the corroborating research discussed above, I continue to believe that Mr.
8 O'Donnell's reliance on the sustainable growth rate in his DCF analysis is not supported
9 by market data.³¹

10 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE USE OF RETENTION**
11 **GROWTH, DIVIDEND GROWTH, AND BOOK VALUE GROWTH IN THE**
12 **FORMULATION OF THE DCF MODEL FOR DUKE ENERGY CAROLINAS?**

13 A. The analyses described above indicate that Mr. O'Donnell's use of book value and
14 dividend growth rates and his "Plowback Ratio" method in the stock valuation process is
15 not supported by the data used by Mr. O'Donnell and me. Since projected earnings
16 growth is the only variable that has any predictive value with respect to the comparison
17 companies' valuation levels, earnings growth should be the only variable used in the

International Evidence on the Payout Ratio, Earnings, Dividends and Returns, Financial Analysts Journal, Vol. 62, No. 1, 2006.

²⁹ Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, Financial Analysts Journal, Vol. 59, No. 1, 2003.

³⁰ Since the payout ratio is the inverse of the retention ratio, the authors found that future earnings growth is negatively related to the retention ratio.

³¹ As noted in my response to Mr. O'Donnell's Comparable Earnings analysis, the "return" component of the "Plowback" rate calculation is subject to a series of assumptions that are not likely hold over the long-term.

1 Constant Growth DCF analyses. As such, my updated DCF analyses continue to be
2 based on projected earnings growth estimates.

3 **Q. WHAT WOULD BE THE EFFECT ON MR. O'DONNELL'S CONSTANT**
4 **GROWTH DCF ANALYSIS IF HE HAD RELIED ONLY ON EARNINGS**
5 **GROWTH ESTIMATES?**

6 A. As shown on Rebuttal Exhibit No. RBH-10, relying on earnings growth rates and the full
7 array of Mr. O'Donnell's dividend yields in Exhibit KWO-2, Mr. O'Donnell's DCF
8 results would be as follows:

Table 5: O'Donnell DCF Results Based on Earnings Growth³²

	13 Wk. Avg. Dividend Yield	4 Wk. Avg. Dividend Yield	Current Wk. Dividend Yield
Value Line Growth Rate	10.73%	10.74%	10.71%
Schwab Growth Rate	9.83%	9.83%	9.79%

9 It also should be noted that, while Mr. O'Donnell provides average dividend yields of
10 4.40 percent to 4.50 percent based on current, four and thirteen-week averages, he does
11 not use this range in his DCF calculation. Combining Mr. O'Donnell's average forecast
12 EPS growth rate of 5.75 percent with the dividend yield range of 4.25 percent to 4.75
13 percent relied upon in his testimony results in a DCF range of 10.00 percent to 10.50
14 percent (excluding the effect of flotation costs).

³² Excludes flotation cost adjustment of 16 basis points (*see* Direct Testimony of Robert B. Hevert, at 67).

1 **Q. DO YOU HAVE ANY FURTHER COMMENTS REGARDING THE GROWTH**
2 **RATES THAT MR. O'DONNELL PRESENTS IN HIS TESTIMONY?**

3 A. Yes, I do. Mr. O'Donnell presents eleven different historical and forecasted growth rates,
4 claiming that this approach is "more global" than the approach presented in my Direct
5 Testimony, and thus "only logical."³³ However, certain of Mr. O'Donnell's average
6 growth rate estimates are so low that they cannot reasonably be considered estimates of
7 the Company's long-term growth prospects. In particular using the "No Merger
8 Activity" group as an example, Mr. O'Donnell's average ten-year historical earnings per
9 share growth rate (0.00 percent) and average ten-year historical dividends per share
10 growth rate (-0.80 percent), as well as his projected dividend per share growth (2.00
11 percent) for Duke Energy, are lower than the current projected 2.24 percent rate of
12 inflation (measured by the spread between the yield on 30-year Treasury securities and
13 the 30-year TIPS yield),³⁴ and as such, represent negative real growth. In my view, it is
14 unreasonable to expect that investors would commit equity capital to a firm expected to
15 experience negative real growth in perpetuity. Consequently, those growth rate
16 projections have no relevant analytical value and should be given no consideration by the
17 Commission in the application of the DCF model.

18 In addition, most of the other historical growth rates presented by Mr. O'Donnell
19 (*i.e.*, average five-year historical earnings per share and dividends per share (both 2.70
20 percent), and the average ten-year book value per share growth rate (3.10 percent) for his

³³ Direct Testimony of Kevin W. O'Donnell, CFA, at 29.

³⁴ Source: The Federal Reserve, <http://www.federalreserve.gov/releases/h15/data.htm>

1 proxy group) are only 46 to 86 basis points above the projected long-term inflation rate.
2 While not negative real growth rates, it is highly unlikely that long-term real growth of
3 0.46 percent to 0.86 percent would be sufficient to attract equity investors.

4 I also note that Mr. O'Donnell reasons that the historical growth rates he presents
5 are relevant to an examination of required returns since "[i]nvestors use all of this
6 information in determining the price at which they are willing to pay for the stock."³⁵ To
7 the extent that analysts such as those included in Mr. O'Donnell's Charles Schwab
8 consensus earnings growth estimate already consider historical information in arriving at
9 their conclusions and recommendations, any additional "consideration" would over-
10 weight the informational content of historical growth rates.

11 **3. Mr. O'Donnell's Comparable Earnings Analysis**

12 **Q. PLEASE SUMMARIZE MR. O'DONNELL'S COMPARABLE EARNINGS**
13 **ANALYSIS.**

14 **A.** Mr. O'Donnell states that he used the Comparable Earnings method in this case to assess
15 the reasonableness of his DCF results, and to "provide an independent methodological
16 estimate of the return that investors would consider reasonable for Duke."³⁶ Mr.
17 O'Donnell's Exhibits KWO-5 and KWO-6 contain the realized Return on Common
18 Equity from 2010 through the forecasted period up to 2016 for each of his two proxy
19 groups, as provided by Value Line.

³⁵ Direct Testimony of Kevin W. O'Donnell, CFA, at 29.

³⁶ *Ibid.*, at 18.

1 **Q. DO YOU AGREE WITH MR. O'DONNELL'S USE OF THE COMPARABLE**
2 **EARNINGS ANALYSIS AS A REASONABLENESS CHECK TO HIS DCF**
3 **RESULTS?**

4 A. No, I do not. As noted below, for example, the projected realized Return on Common
5 Equity for many of Mr. O'Donnell's proxy companies is significantly diluted by recent or
6 projected additions to net plant. That result is consistent with Mr. O'Donnell's
7 recognition that utilities have begun to seek rate relief, and likely will continue to do so,
8 as a result of capital expenditures. The assumption that the Cost of Equity would
9 materially decrease as capital investments increase, however, is contrary to market
10 evidence.

11 **Q. HAVE YOU CONDUCTED ANY ANALYSES TO DEMONSTRATE HOW MR.**
12 **O'DONNELL'S PROXY COMPANIES' EARNED ROE PROJECTIONS ARE**
13 **DILUTED BY ONGOING CAPITAL EXPENDITURES?**

14 A. Yes, I have. In order to determine whether the earned ROE estimates Mr. O'Donnell
15 relies upon are reasonable indicators of the long-term ROE for his proxy companies, I
16 decomposed Value Line's earned ROE projections using the "DuPont" formula, which
17 decomposes the Return on Common Equity into three components: (1) the Profit Margin
18 (net income/revenues); (2) Asset Turnover (revenues/net plant); and (3) the Equity
19 Multiplier (net plant/equity).

20 As Rebuttal Exhibit No. RBH-11 demonstrates, based on Mr. O'Donnell's proxy
21 group including companies involved in mergers, the Asset Turnover rate declines from

22 2001 through Value Line's 2014 – 2016 projection period. Over that same time period,

1 according to Value Line data, the proxy company average Net Plant experienced a
2 cumulative increase of greater than 130.00 percent. Since, as Mr. O'Donnell notes, the
3 utility industry is going through a period of increased capital investment,³⁷ the lag
4 between the addition of net plant and revenue generated by those investments dilute the
5 Asset Turnover ratio, at least in the near term. Consequently the projected Return on
6 Common Equity also is diminished, as is its usefulness as a measure of investors'
7 expectations of long-term (*i.e.*, in perpetuity) growth.

8 In order to gain an additional perspective on the relationships between plant
9 additions and Asset Turnover, I conducted a regression analysis in which the annual
10 change in the Asset Turnover rate was the dependent variable, and the annual change in
11 Net Plant was the independent variable. As shown in Rebuttal Exhibit No. RBH-11, that
12 analysis shows a statistically significant negative relationship between the two variables,
13 such that as annual net plant increases, the Asset Turnover ratio decreases. Again, that
14 analysis calls into question the reasonableness of the "Plowback" method as a measure of
15 long-term growth.

16 Those findings also are important since, as noted earlier, the projected Return on
17 Common Equity also is an input to Mr. O'Donnell's "Plowback" method of estimating
18 the long-term growth component of his Constant Growth DCF model; the downward bias
19 in the projected realized Return on Common Equity also results in a downward bias in
20 Mr. O'Donnell's Constant Growth DCF results.

³⁷ *Ibid.*, at 15.

4. *Relevance of Pension Funding Assumptions in Establishing the Company's Return on Equity*

Q. PLEASE SUMMARIZE MR. O'DONNELL'S POSITION REGARDING THE RELEVANCE OF THE ASSUMED EQUITY RATE OF RETURN THE COMPANY IS USING IN ITS RETIREMENT PORTFOLIO FOR CALCULATING ITS PENSION EXPENSE.

A. Mr. O'Donnell suggests the Company's "assumed return on equity for its pension expense to be 8.5%,"³⁸ and reasons that the difference in his calculated 8.50 percent return and my recommended ROE does not "make sense."³⁹ While Mr. O'Donnell appears to recognize that there is a difference between expected and realized returns, he also suggests that "pension investments are typically more risky, and thereby deserve a higher return, than an investment in a regulated utility."⁴⁰

Q. WHAT IS YOUR RESPONSE TO MR. O'DONNELL ON THOSE POINTS?

A. For several reasons, Mr. O'Donnell's position is misplaced and not relevant to the determination of the Company's Cost of Equity. As Mr. O'Donnell supposed, one of my concerns with his use of pension equity return expectations to estimate the authorized equity return is that he ignores the crucial distinction between *expected* and *required* returns. That is, the *expectation* that an asset will return a given amount is fundamentally different than the return *required* by investors to take on the risks associated with the

38 *Ibid.*, at 21.

39 *Ibid.*

⁴⁰ *Ibid.*, at 22. Please note that based on target asset relocation ratios, the calculated expected return on equities disclosed in the Duke Energy Corporation 2010 SEC Form 10-K is considerably higher than Mr. O'Donnell's 8.50 percent estimate.

1 investment. Expected returns are forecasts of future performance, whereas required
2 returns represent an opportunity cost, and are equal to the returns investors require in
3 order to be compensated to take on the risks of ownership. Thus, a pension fund asset
4 manager will match the expected returns available from various asset classes to the
5 expected liabilities that must be funded, while an investor seeking to maximize his risk-
6 adjusted return will only invest in a security if the expected return is equal to or greater
7 than the required return.

8 The distinction between expected and required returns, and the time horizon of
9 the liabilities being funded by pension assets was noted quite clearly by the Arkansas
10 Public Service Commission (the “APSC”) in Docket No. 04-121-U. In its decision, the
11 APSC commented on the Attorney General witness’ position that expected returns
12 disclosed in the context of pension fund assumptions could be used in determining the
13 ROE for a regulated utility, and noted that:

14 There are two major problems with this sort of analysis: (1) it is
15 unclear how long the time horizon is; and (2) these returns are
16 expected, not required. It is well-established that expected returns
17 may be less than, equal to, or greater than required returns. For
18 that reason, expected returns cannot be used directly as a proxy for
19 required returns, which is the information sought in a general rate
20 case.⁴¹

21 In that regard, it also is important to note that in the Order issued in Docket No. 2009-
22 226-E (Duke Energy Carolinas, LLC), the Commission found the stipulated increase in
23 rates, based on a 10.70 percent ROE, to be just and reasonable.⁴² Nowhere in that Order

⁴¹ Docket No. 04-121-U, Order No. 16, Arkansas Public Service Commission, September 19, 2005, at 19.

⁴² Public Service Commission of South Carolina, Docket No. 2009-226-E, Order No. 2010-79 Approving Increase in Electric Rates and Charges, January 27, 2010, at 47.

1 does the Commission refer to Duke Energy's pension plan funding assumptions as a basis
2 for its finding regarding the company's ROE. Similarly, the authorized return for my
3 proxy companies consistently have exceeded their pension assumptions.⁴³ As such, it
4 appears that utility commissions in general, and this Commission in particular have not
5 constrained the authorized ROE to the subject Company's pension funding assumptions;
6 as the APSC pointed out, it would be inappropriate to do so.

7 Moreover, Mr. O'Donnell fails to take into consideration other very visible and
8 widely available measures of market returns. As noted earlier in my Rebuttal Testimony,
9 for example, Mr. O'Donnell relies heavily on Value Line for the projected and historical
10 growth rates used in his Constant Growth DCF analyses. In addition to projected
11 dividend, book value and earnings per share growth rates, Value Line also provides three
12 to five year total return projections for over 1,500 companies. Given the number of
13 companies contained in the Value Line universe, in aggregate those projections
14 reasonably could be considered to be measures of projected market returns. As shown in
15 Rebuttal Exhibit No. RBH-12, as of November 7, 2011, the market capitalization
16 weighted average return is approximately 16.06 percent. Those forecasts demonstrate
17 that Mr. O'Donnell's calculation of the Company's Pension fund equity return
18 expectation is fundamentally different than Value Line's forecasts for overall market total
19 returns.

⁴³

Source: Hevert Proxy Companies SEC Form 10-K disclosures, Regulatory Research Associates.

1 **Q. DO FINANCE TEXTS SUGGEST THAT A COMPANY’S COST OF EQUITY**
2 **CAN BE ASSESSED IN THE CONTEXT OF PENSION ASSET EXPECTED**
3 **RETURNS?**

4 A. No, they do not. As noted in my Direct Testimony, widely used finance texts recommend
5 the use of multiple models in estimating the Cost of Equity, in particular the DCF,
6 CAPM, Risk Premium, and Arbitrage Pricing Theory approaches.⁴⁴ In order to
7 determine whether Mr. O’Donnell’s use of expected returns for the purposes of pension
8 asset management also is an approach recommended by finance texts, I reviewed articles
9 published in financial journals, as well as additional texts that speak to the methods used
10 by analysts to estimate the Cost of Equity. With respect to published articles, as early as
11 1985 Brigham, Shome and Vinson addressed methods used to estimate the Cost of Equity
12 for regulated utilities. In their introduction, the authors noted that:

13 In the mid-1960s, Myron Gordon and others began applying the
14 theory of finance to help estimate utilities’ costs of capital.
15 Previously, the standard approach in cost of equity studies was the
16 “comparable earnings method”, which involved selecting a sample
17 of unregulated companies whose investment risk was judged to be
18 comparable to that of the utility in question, calculating the
19 average return on book equity (ROE) of these sample companies,
20 and setting the utility’s service rates at a level that would permit
21 the utility to achieve the same ROE as the comparable companies.
22 This procedure has now been thoroughly discredited...and it has
23 been replaced by three market-oriented approaches: (i) the DCF
24 method, (ii) the bond-yield-plus-risk-premium method, and (iii) the
25 CAPM, which is a specific version of the generalized bond-yield-
26 plus-risk-premium approach.⁴⁵

⁴⁴ See Direct Testimony of Robert B. Hevert, at 32,33.

⁴⁵ Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility’s Cost of Equity*, Financial Management, Spring, 1985.

1 Similarly, an article published in Financial Analysts Journal surveyed financial analysts
2 to determine the analytical techniques that are used in practice.⁴⁶ Regarding stock price
3 valuation and cost of capital estimation, the author asked respondents to comment only
4 on the DCF, CAPM, and Economic Value Added models. Nowhere in that article did the
5 author consider asking whether pension fund assumptions are relevant to the
6 determination of the cost of capital.

7 With respect to finance texts, I reviewed both academic and practitioner-oriented
8 volumes. Table 6 (below) summarizes the results of that review. As Table 6
9 demonstrates, the DCF, CAPM and Risk Premium approaches are commonly discussed
10 in both academic and practitioner texts. None of the texts, however, addressed the use of
11 expected pension fund returns as the basis for estimating the Cost of Equity.

⁴⁶ Stanley B. Block, *A Study of Financial Analysts: Practice and Theory*, Financial Analysts Journal, July/August, 1999.

Table 6: Cost of Equity Estimation Techniques Covered in Finance Texts

Text, Publication Date	Authors	Cost of Equity Techniques Discussed
Academic Texts		
<u>Principles of Corporate Finance</u> , 1988	Brealey, Myers	<ul style="list-style-type: none"> • DCF (including examples in the context of setting electricity rates) • Capital Asset Pricing Model • Arbitrage Pricing Model • Note: Brealey and Myers discuss pension management, but do not indicate that expected returns are measures of the Cost of Equity
<u>Financial Management: Theory and Practice</u> , 2008	Brigham, Ehrhardt	<ul style="list-style-type: none"> • DCF, including flotation cost adjustments • Capital Asset Pricing Model • Bond-Yield-Plus-Risk-Premium
<u>Fundamentals of Financial Management</u> , 2004	Brigham, Houston	<ul style="list-style-type: none"> • DCF, including flotation cost adjustments • Capital Asset Pricing Model • Bond-Yield-Plus-Risk-Premium
<u>Corporate Finance</u> , 2007	Smart, Megginson, Gitman	<ul style="list-style-type: none"> • Capital Asset Pricing Model
<u>Principles of Corporate Finance</u> , 2006	Brealey, Myers, Allen	<ul style="list-style-type: none"> • Constant Growth DCF (including examples in the context of setting electricity rates – updated) • Multi-Stage DCF • Capital Asset Pricing Model
Practitioner Texts		
<u>Cost of Capital; Applications and Examples</u> , 2010	Pratt, Grabowski	<ul style="list-style-type: none"> • Constant Growth DCF (including flotation cost adjustment) • Multi-Stage DCF • Capital Asset Pricing Model • Build-up Models
<u>New Regulatory Finance</u> , 2006	Morin	<ul style="list-style-type: none"> • Constant Growth DCF (including flotation cost adjustment) • Multi-Stage DCF • Capital Asset Pricing Model • Empirical CAPM • Risk Premium (Bond yield plus risk premium) • Fama French Three Factor Model

Text, Publication Date	Authors	Cost of Equity Techniques Discussed
		<ul style="list-style-type: none"> • Comparable Earnings

5. Relevance and Application of the CAPM

Q. DOES MR. O'DONNELL INCORPORATE A CAPM ANALYSIS INTO HIS EVALUATION OF DUKE ENERGY CAROLINAS'S ROE?

A. No, he does not. Mr. O'Donnell states that he does not apply the CAPM because he believes that an underlying assumption of the CAPM is that "calculated risk premiums stay relatively constant over time," and that he has, "found such assumptions to be unrealistic."⁴⁷ Mr. O'Donnell further suggests that, because he believes that Beta coefficients may not reflect "sudden changes in a company's stock", the CAPM could produce "meaningless answers."⁴⁸ Finally, Mr. O'Donnell concludes that the CAPM model is a "pure academic model," and that investors "simply do not use such an academic model in the [sic] daily 'real life' decisions."⁴⁹

Q. DO YOU AGREE WITH MR. O'DONNELL'S ASSESSMENT OF THE CAPM MODEL?

A. No, I do not. As a preliminary matter, all financial models have an "academic" element. And while Mr. O'Donnell chooses not to use the CAPM because there are certain elements of the model that require the application of reasoned judgment in arriving at certain assumptions, the DCF model also is subject to disagreement as to its application; much of my Rebuttal Testimony speaks to the areas in which I believe Mr. O'Donnell has

⁴⁷ Direct Testimony of Kevin W. O'Donnell, CFA, at 30.

⁴⁸ *Ibid.*, at 32.

⁴⁹ *Ibid.*, at 33.

1 misapplied that model. I agree with Mr. O'Donnell, however, that Beta coefficients
2 calculated over a relatively long time period may not reasonably reflect current market
3 conditions.⁵⁰ As noted on page 44 of my Direct Testimony, Value Line and Bloomberg
4 calculate Beta coefficients over five and two year periods, respectively. Consequently,
5 those Beta coefficients may not adequately reflect investors' sentiments during periods of
6 rapid and substantial market changes. It is for that reason that the CAPM results
7 presented in my Direct Testimony included analyses based on Beta coefficients
8 calculated over a twelve-month period. In my view, adjusting the model to reflect current
9 market realities is a far more reasonable approach than simply dismissing the approach as
10 "academic". While analysts may differ in the application of certain assumptions
11 underlying the CAPM, so too do analysts differ in the application of the other ROE
12 estimation techniques. Simply dismissing the use of the CAPM on the basis of that
13 model's underlying assumptions, however, may ignore market information that may be
14 useful in helping to determine the Company's ROE.

15 Moreover, while Mr. O'Donnell noted some of the assumptions underlying the
16 CAPM, he failed to point out the limiting assumptions underlying the Constant Growth
17 DCF model: (1) that earnings, dividends (and book value) grow at the same, constant
18 rate; (2) that the dividend payout ratio stays constant over time; (3) a constant
19 Price/Earnings multiple; and (4) a discount rate greater than the expected growth rate. In
20 my experience, it is difficult to assume that all of those assumptions will hold in
21 perpetuity. Because all financial models are susceptible to the effects of limiting

⁵⁰ *Ibid.*, at 32.

1 assumptions, as noted in the survey of financial literature regarding Cost of Equity
2 estimation techniques (*see* Table 6, above), it is common to use multiple methodologies
3 in estimating the Cost of Equity.

4 **Q. DO YOU AGREE WITH MR. O'DONNELL'S STATEMENT THAT BETA**
5 **COEFFICIENTS MAY NOT REFLECT CURRENT MARKET CONDITIONS?**⁵¹

6 A. As a general matter, I do. As noted on page 44 of my Direct Testimony, Value Line and
7 Bloomberg calculate Beta coefficients over five and two year periods, respectively.
8 Consequently, those Beta coefficients may not adequately reflect investors' sentiments
9 during periods of rapid and substantial market changes. It is precisely for that reason that
10 the CAPM results presented in my Direct Testimony included analyses based on Beta
11 coefficients calculated over a twelve-month period. In my view, adjusting the model to
12 reflect current market realities is a far more reasonable approach than simply dismissing
13 the approach as "academic".

14 **Q. DO YOU ALSO AGREE WITH MR. O'DONNELL'S ASSERTION THAT THE**
15 **CAPM IS NOT USED IN THE "REAL WORLD"?**

16 A. No, I do not. As noted earlier, the survey published by Financial Analysts Journal by
17 Stanley Block clearly indicated that the CAPM is used by practitioners. In fact, a 2001
18 article by Professors Graham and Harvey demonstrated that industry practitioners are far

⁵¹ *Ibid.*, at 32.

1 more likely to use the CAPM than the DCF model.⁵² As such, I strongly disagree with
2 Mr. O'Donnell's assertion that the CAPM is not used in practice.

3 **Q. WHAT IS YOUR CONCLUSION REGARDING MR. O'DONNELL'S**
4 **REJECTION OF THE CAPM?**

5 A. As noted in my Direct Testimony and discussed earlier, the CAPM is widely accepted by
6 academics and practitioners alike in the establishment of the market-required ROE.⁵³
7 While analysts may differ in the application of certain assumptions within the CAPM, so
8 too do analysts differ in the application of the other ROE estimation techniques. Simply
9 dismissing the use of the CAPM and the results produced by that methodology on the
10 basis of that model's underlying assumptions ignores alternative market information that
11 may be useful in helping to determine the Company's ROE.

12 **6. Flotation Costs**

13 **Q. HAS MR. O'DONNELL INCORPORATED A FLOTATION COST**
14 **ADJUSTMENT INTO HIS ROE RECOMMENDATION?**

15 A. No, he has not. Nor has he made any reply to my consideration of a flotation cost
16 adjustment in my Direct Testimony.

⁵² John R. Graham, Campbell R. Harvey, *The Theory and Practice of Corporate Finance: Evidence from the Field*, *Journal of Financial Economics*, 2001.

⁵³ See, Direct Testimony of Robert B. Hevert, at 32,33.

1 **Q. WHAT IS YOUR POSITION REGARDING A FLOTATION COST**
2 **ADJUSTMENT?**

3 A. As discussed in my Direct Testimony, I did not adjust my recommended ROE to reflect
4 the effect of flotation costs.⁵⁴ While Mr. O'Donnell has not incorporated a flotation cost
5 adjustment into his analyses, I still maintain that such consideration is warranted, and in
6 fact necessary in a complete analysis of investors' required returns.

7 **Q. HAVE YOU UPDATED THE CALCULATION OF THE FLOTATION COST**
8 **ADJUSTMENT, AS PRESENTED IN YOUR DIRECT TESTIMONY?**⁵⁵

9 A. Yes, I have. Based on updated market data as of September 30, 2011, the flotation
10 adjustment amount is 0.15 percent (*i.e.*, 15 basis points).⁵⁶

11 **7. Other Issues**

12 **Q. DID MR. O'DONNELL POINT TO ANY OTHER DATA POINTS IN SUPPORT**
13 **OF HIS 9.50 PERCENT ROE RECOMMENDATIONS?**

14 A. Yes, Mr. O'Donnell suggests that "[o]ther rate of return witnesses across the United
15 States have also recognized the current period of historical low expected rates of return in
16 the marketplace."⁵⁷ In support of that position, Mr. O'Donnell points to three ROE
17 recommendations, two in Nevada one in North Carolina, which included
18 recommendations of 9.25 percent, 9.40 percent, and 9.70 percent.⁵⁸

⁵⁴ *Ibid.*, at 67.

⁵⁵ *Ibid.*

⁵⁶ *See* Rebuttal Exhibit RBH-14.

⁵⁷ Direct Testimony of Kevin W. O'Donnell, CFA, at 21.

⁵⁸ *Ibid.*

1 **Q. ARE THERE OTHER RECENT ROE RECOMMENDATIONS NOT**
2 **MENTIONED BY MR. O'DONNELL?**

3 A. Yes, there are. For example, from 2008 through 2011, there were a total of 126 ROE
4 recommendations made by vertically integrated investor-owned utilities.⁵⁹ The average
5 recommended ROE over that period was 11.25 percent; which is 175 basis points above
6 Mr. O'Donnell's 9.50 percent ROE recommendation. Consequently, I do not agree that
7 the four data points noted by Mr. O'Donnell reasonably represent the views of "rate of
8 return witnesses across the United States."

III. RESPONSE TO MR. CHRISS

9 **Q. BRIEFLY SUMMARIZE MR. CHRISS' TESTIMONY AND**
10 **RECOMMENDATIONS REGARDING THE COMPANY'S COST OF EQUITY.**

11 A. With respect to the Company's ROE, Mr. Chriss suggests that the inclusion of
12 Construction Work in Progress ("CWIP") in rate base shifts risk "traditionally assumed
13 by investors" to ratepayers.⁶⁰ Finally, Mr. Chriss observes that although the proposed
14 merger between Duke Energy Corporation and Progress Energy did not close during the
15 test year, the rates in effect as a result of this docket "likely will be in effect after the
16 companies have been combined."⁶¹

⁵⁹ Source: Regulatory Research Associates.

⁶⁰ Direct Testimony of Steve W. Chriss, at 7.

⁶¹ *Ibid.*, at 9.

1 **Q. DOES MR. CHRISS MAKE A SPECIFIC RECOMMENDATION REGARDING**
2 **AN ADJUSTMENT WITH RESPECT TO EITHER OF THOSE ISSUES??**

3 A. No, he does not.

4 **Q. DO YOU AGREE WITH MR. CHRISS'S ASSESSMENT OF THE COMPANY'S**
5 **RISK RELATED TO CWIP IN RATE BASE?**

6 A. No, I do not. I reviewed the legislative and regulatory treatment of CWIP in rate base for
7 the companies contained in my Revised Proxy Group and then expanded my analysis to
8 include the entire United States. Rebuttal Exhibit No. RBH-13 presents the results of my
9 research and indicates that 16 of the 25 jurisdictions served by my Revised Proxy Group
10 companies as well 23 of 51⁶² jurisdictions across the country have implemented some
11 kind of legislative or regulatory framework that provide for the inclusion of CWIP in rate
12 base.

13 **Q. WHAT DO YOU CONCLUDE IN THAT REGARD?**

14 A. It is clear that the Company's proposal is not unique to Duke Energy Carolina. In fact
15 such provisions are in place in over 60.00 percent of jurisdictions served by the
16 companies included in my Revised Proxy Group. In my view, for the purpose of
17 estimating the Cost of Equity the relevant analytical issue is whether the Company is so
18 less risky than its peers as a direct result of its proposal that investors would knowingly
19 and measurably reduce their return requirements. Since the risk- mitigating effects of the

⁶² Includes District of Columbia.

1 recovery of CWIP are reflected in the proxy group, it is not appropriate to make an
2 adjustment to the Company's ROE for the inclusion of CWIP in rate base.

3 **Q. WHAT IS YOUR RESPONSE TO MR. CHRISS' SUGGESTION THAT IF THE**
4 **MERGER IS APPROVED, THE APPROVED RATES FROM THIS CASE WILL**
5 **BE IN EFFECT AFTER THE MERGER?**⁶³

6 A. I appreciate that Mr. Chriss has not suggested that the Commission make an adjustment
7 for a transaction that has not yet closed. In that regard, I agree that it is appropriate to
8 view Duke Energy Carolinas without respect to the proposed merger and do not believe
9 that any adjustment to the Company's ROE relating to the combined companies (however
10 such an adjustment might be developed) is appropriate.

11 **IV. CONCLUSIONS**

12 **Q. WHAT ARE YOUR OVERALL CONCLUSIONS?**

13 A. My updated analytical results are provided in Tables 12 through 14 (below). As
14 discussed throughout my Rebuttal Testimony, the results of the updated Constant Growth
15 DCF analysis and CAPM analysis rely on analytical methodologies that are supported by
16 underlying market information. Those analytical results remain consistent with the
17 results presented in my Direct Testimony. For the reasons discussed throughout my
18 Rebuttal Testimony, the analyses and conclusions presented by Mr. O'Donnell are
19 unreasonably low and do not reflect current market requirements for the Company's
20 ROE. Moreover, I view the CAPM results as a means of informing the range of

⁶³ See Direct Testimony of Steve W. Chriss, at 9.

analytical results, and, based on the conclusion that current Beta coefficients more accurately reflect current market conditions than longer-term Beta coefficients, I view the CAPM results produced using those estimates as more informative.

Table 12: Summary of Results – Hevert Revised Proxy Group

	Low	Mean	High
Constant Growth DCF			
30-Day Average	9.14%	10.48%	12.04%
90-Day Average	9.08%	10.42%	11.97%
180-Day Average	9.08%	10.42%	11.98%
CAPM Results	Sharpe Ratio Derived Market Risk Premium		Market DCF Derived Market Risk Premium
Eighteen-Month Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.65%		11.26%
Near Term Projected 30-Year Treasury (3.97%)	12.33%		11.94%
Average Bloomberg and Value Line Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.55%		11.16%
Near Term Projected 30-Year Treasury (3.97%)	12.23%		11.84%

Table 13: Summary of Results – O'Donnell Proxy Group (Includes Merger Companies)

	Low	Mean	High
Constant Growth DCF			
30-Day Average	9.10%	10.32%	11.79%
90-Day Average	9.09%	10.31%	11.78%
180-Day Average	9.12%	10.34%	11.81%
CAPM Results	Sharpe Ratio Derived Market Risk Premium		Market DCF Derived Market Risk Premium
Eighteen-Month Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.53%		11.15%
Near Term Projected 30-Year Treasury (3.97%)	12.21%		11.83%
Average Bloomberg and Value Line Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.46%		11.08%
Near Term Projected 30-Year Treasury (3.97%)	12.14%		11.75%

Table 14: Summary of Results – O'Donnell Proxy Group (No Merger Companies)

	Low	Mean	High
Constant Growth DCF			
30-Day Average	9.11%	10.29%	11.63%
90-Day Average	9.10%	10.27%	11.62%
180-Day Average	9.13%	10.30%	11.65%
CAPM Results	Sharpe Ratio Derived Market Risk Premium		Market DCF Derived Market Risk Premium
Eighteen-Month Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.59%		11.20%
Near Term Projected 30-Year Treasury (3.97%)	12.27%		11.88%
Average Bloomberg and Value Line Beta Coefficient			
Current 30-Year Treasury (3.29%)	11.49%		11.11%
Near Term Projected 30-Year Treasury (3.97%)	12.17%		11.79%

- 1 **Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?**
- 2 **A. Yes, it does.**